



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/698,607	10/30/2003	Sivapackia Ganapathiappan	10010060-5	9838

7590 03/02/2005

HEWLETT-PACKARD COMPANY  
Intellectual Property Administration  
P.O. Box 272400  
Fort Collins, CO 80527-2400

EXAMINER

ZALUKAEVA, TATYANA

ART UNIT	PAPER NUMBER
----------	--------------

1713

DATE MAILED: 03/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

LD

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/698,607	GANAPATHIAPPAN, SIVAPACKIA	
	<b>Examiner</b>	<b>Art Unit</b>	
	Tatyana Zalukaeva	1713	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 06 December 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 6-10 and 24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 6-10 and 24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

AR

### DETAILED ACTION

1. Claim 6 is amended to introduce the limitation of a convertible moiety being in a hydrophobic form. Claims 1-234 are cancelled. New claim 24 is added.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claims 6-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Idogawa et al (U.S. 5,942,560).

Idogawa discloses a method of making polymer p[articles comprising admixing an aqueous carrier with an unsaturated monomer containing a hydrophobic moiety, namely methyl methacrylate (see Example 5, col.13, lines 35-44) and a suitable amount of 2-methacryloyloxyethyl succinate (monomer having convertible moiety of the instant claims, as identified by the instant specification) "ACRYL ESTER SA" and a polymerizable surfactant to form an emulsion and adding an ammonium persulfate (col.13, lines 45-52). The polymerization was continued for 3 and further 5 hours at 60C. (col.13, lines 52-56). Thus the limitations of claims 6 and 10 are fulfilled. With regard to claim 9, Idogawa teaches that in the emulsion polymerization, monomers having a reactive cross-linking group such as an epoxy group, a hydroxymethylamide group and an isocyanate group and/or multifunctional monomers having two or more vinyl groups may be blended for cross-linking. (col.col.4, lines 18-22).

Art Unit: 1713

4. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Idogawa. Idogawa does not specifically disclose the step of converting the hydrophobic moiety into a hydrophilic form. However, Idogawa suggests the use of pH controllers if necessary. According to Idogawa, the pH controllers include, for example, ammonia, urea, monoethanolamine, diethanolamine, triethanolamine, alkaline metal salts of carbonic acid and phosphoric acid such as sodium tripolyphosphate and sodium carbonate, and hydroxides of alkaline metals such as sodium hydroxide (col.8, lines 35-42). The control and change of pH is the very method used by Applicants to provide a conversion step as claimed in claim 24. Therefore, based on clear suggestion of Idogawa to utilize the pH controllers to modify the pH, it would have been obvious to those skilled in the art at the time the invention was made that addition of such pH controllers will result in converting of the hydrophobic moiety into a hydrophilic one.

5. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Idogawa in view of Winnik.

With regard to claim 7 Idogawa fails to disclose that filtration is used to separate polymer particles. With regard to claim 8 Idogawa discloses water soluble basic dye vs. polymerizable dye of the instant claim.

Filtration in order to isolate the final product is a routinely used technique in the art of organic and polymer chemistry. Thus, Winnik et al (U.S. 4,795,794) discloses a method of making amphiphatic particles by dispersion polymerization process for

Art Unit: 1713

affecting the preparation of particles which comprises dissolving in a suitable solvent a mixture of at least two first monomer components including at least one second monomer having covalently attached thereto a dye moiety, subsequently adding to the reaction mixture a polymerization initiator, thereafter affecting polymerization of the reaction mixture by heating, and separating the product particles therefrom (abstract). Average particle size is 0.1-20 micron (0.1 micron=100nm) (col.6, lines 40,41). The resulting mixture from polymerization, i.e. the product particles are separated from the reaction mixture by usual known techniques, including filtration (col.4, lines 34). Here the term dispersion polymerization vs. emulsion polymerization is to distinguish the **resulting** solid dispersion of particles, from the **initial** liquid droplets emulsion of monomers. Therefore, basically the process is the same, but by emulsion the term means the initial reaction mixture, and in dispersion, the term means the resulting polymer particles, which are obtained in either process.

Based on the similarity of the problems intended to be solved by Winnik, Idogawa and the instantly claimed invention, on the known use of filtration as a separation method (the nature of the problem to be solved) and on recognition by Winnik the equivalency of the known separation methods, including filtration, it would have been obvious to those skilled in the art at the time the invention was made to filter the resulting polymer in order to achieve better isolation of particles, and thus to arrive at the instantly claimed subject matter.

It would have been also obvious to those skilled in the art to include the polymerizable dye monomer of Winnik in lieu of mixing a dye with vinyl monomer of

Art Unit: 1713

Igogawa in order to achieve more homogeneous distribution of dye throughout the particle.

***Response to Arguments***

6. Applicant's arguments with respect to claims 6-10 and 24 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tatyana Zalukaeva whose telephone number is (571) 272-1115. The examiner can normally be reached on 9:00 - 5:30.

Art Unit: 1713

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tatyana Zalukaeva  
Primary Examiner  
Art Unit 1713

February 24, 2005

A handwritten signature in black ink, appearing to read 'Zalukaeva', with a long horizontal flourish extending to the right.